

## Claims

- [c1] 1. A lithography analysis method for a system, including a network server and a user computer having a browser interface, wherein the method is used to sort and analyze a rework reason for a lithography rework with respect to a plurality of machines in a plurality of groups, the method comprising:  
transferring all initial data of the machines to a network database for storage, wherein the network database holds batches of rework data;  
inputting an analysis time node from the browser interface and transmitting the analysis time node to the network server;  
retrieving a required data from the network server according to the analysis time node; and  
displaying the required data on the browser interface.
- [c2] 2. The analysis method of claim 1, wherein the rework data includes: a product number, a production line code, a station code, a department code, a product code, a mask, rework pieces, a measuring station, a production machine, an operator name, a rework reason code, a rework reason title, current status, wafer lot note items, a rework time and a rework region.
- [c3] 3. The analysis method of claim 1, wherein in an exemplary group, a group code and station code identical to that of the production machine belonging to the exemplary group of measuring stations is found from the rework data, each machine within the exemplary group has a corresponding machine code and the machine code of the production machine is a production machine code, wherein using the related production machine rework data from the network server includes:  
determining if the machine's group code is equivalent to the group code of the measuring machine and the station code of the machine is the production machine code or not;  
if the machine's group code is equivalent to the group code of the measuring machine and the station code of the machine is the production machine code, setting the machine as the production machine of the measuring machine; and  
if the machine's group code is not equivalent to the group code of the measuring machine and the station code of the machine is not the production

machine code, searching for the next machine and comparing.

- [c4] 4. The analysis method of claim 1, wherein the machines in the same group as the production machine must perform an operation with an identical mask, causing the network server to obtain the required mask data related to the machine production operation by setting the machine mask equal to the production machine mask.
- [c5] 5. The analysis method of claim 1, wherein the network database contains all company worker"s names, worker numbers and corresponding data, and the network server obtains a name of a worker performing a particular rework operation by:  
determining if a worker number resides in the network database, using the worker number to retrieve the name of the worker performing the particular rework operation.
- [c6] 6. The analysis method of claim 1, wherein the network database includes a corresponding data between a rework reason title and a rework reason code, and the network server, to obtain the rework reason title and thereby the required data , automatically performs:  
using the rework reason code to find the rework reason title from the network database, if the rework reason code resides in the network database.
- [c7] 7. The analysis method of claim 1, wherein to make a statistical analysis of a percentage of various rework reasons, processing for the network server includes:  
a first inquiry: retrieving rework reason title, rework lot and rework pieces from rework data within the network database according to the analysis time node;  
a second inquiry: retrieving production quantity at the input analysis time node and under the same conditions as the first inquiry step from the production quantity data within the network database; and  
finding a rework rate of various rework reasons according to the rework pieces and production pieces obtained from the first and the second inquiry: (rework pieces/production pieces).

- [c8] 8. The analysis method of claim 1, wherein the browser interface further includes an input rework reason.
- [c9] 9. The analysis method of claim 8, wherein to obtain rework conditions for all machines when the rework reason is REG-overlap misalignment, the network server:
- performs a first inquiry: retrieving data including manufacturing technique code, product code, mask, rework lot and rework pieces of all machines from the rework data within the network database according to the input analysis time node and the rework reason REG-overlap misalignment;
- performs a second inquiry: retrieving data including manufacturing technique code, product code, mask, rework lot and production pieces with an input analysis time node under same conditions as the first inquiry from a production quantity data of each group within the network database; and
- finds the rework rate according to the rework pieces and production pieces obtained from the first and the second inquiry: (rework pieces/production pieces).
- [c10] 10. The analysis method of claim 8, wherein to obtain rework conditions for all machines when the rework reason is DCD (out of specification), the network server:
- performs a first inquiry: retrieving data including manufacturing technique code, product code, mask, rework lot and rework pieces of all machines from the rework data within the network database according to the input analysis time node and the rework reason DCD (out of specification);
- performs a second inquiry: retrieving data including manufacturing technique code, product code, mask and production pieces with an input analysis time node under the same condition as the first inquiry from the production quantity data of each group within the network database; and
- finds the rework rate according to the rework pieces and production pieces obtained from the first and the second inquiry: (rework pieces/production pieces).
- [c11] 11. The analysis method of claim 7, wherein to obtain a rework condition for a

particular machine in a particular group when the rework reason is REG-overlap misalignment, the network server:

retrieves a machine name, rework lot, rework pieces and production pieces of the particular machine of the particular group from production quantity data of each machine in the network database according to the input analysis time node and the rework reason REG-overlap misalignment; and

finds the rework rate of the particular machine within the particular group from the rework pieces and production pieces: (rework pieces/production pieces).

[c1 2] 12. The analysis method of claim 8, wherein to obtain rework conditions for a particular machine in a particular group when the rework reason is DCD-CD out of specification, the network server:

retrieves a machine name, rework lot, rework pieces, production pieces of the particular machine of the particular group from production quantity data of each machine in the network database according to the input analysis time node and the rework reason DCD-CD out of specification; and

finds the rework rate of a particular machine within a particular group from the rework pieces and production pieces: (rework pieces/production pieces).

[c1 3] 13. The analysis method of claim 8, wherein to obtain rework conditions for a particular machine in a particular group when the rework reason is hardware issue (including scanner down, track down, poor coating, arrow shade, defocus, poor development, abnormal focus, optical group shift or peeling, wafer tilt due to cleaning, no dummy pattern, no photoresist, wafer edge mark and reject wafer), the network server:

retrieves a machine name, rework lot, rework pieces and production pieces of the particular machine of the particular group from production quantity data of each machine in the network database according to the input analysis time node and the rework reason hardware issue; and

finds the rework rate of a particular machine within a particular group from the rework pieces and production pieces: (rework pieces/production pieces).

[c1 4] 14. The analysis method of claim 8, wherein to obtain rework condition for all machines when the rework reason is track down, stepper/scanner down or



retrieves a machine name, rework lot, rework pieces and production pieces of all the machines from the rework data in the network database according to the input analysis time node and the rework reason including out of date, non-lithography region request engineering test, test wafer, erroneous operation, pressure drop or earthquake; and  
finds the rework rate of all machines from the rework pieces and production pieces when the rework reason is out of date, non-lithography region request engineering test, test wafer, erroneous operation, pressure drop or earthquake: (rework pieces/production pieces).

[c18] 18. The analysis method of claim 1, wherein the manufacturing technique code, the product code and the rework reason are input from the browser interface.

[c19] 19. The analysis method of claim 18, wherein to obtain a percentage ratio of rework pieces of a particular group over the production pieces of all groups, the network server:  
retrieves the manufacturing technique code, mask, rework lot, rework pieces and production pieces from the rework data of each group inside the network database according to the input manufacturing technique code, product code and analysis time node.

[c20] 20. The analysis method of claim 18, wherein to obtain a percentage ratio of rework pieces of a particular group when the rework reason is REG-overlap misalignment over the production pieces of all groups, the network server:  
retrieves the manufacturing technique code, mask, rework lot, rework pieces and production pieces from the rework data of each group inside the network database according to the input manufacturing technique code, product code, analysis time node and the rework reason REG-overlap misalignment.

[c21] 21. The analysis method of claim 18, wherein to obtain a percentage ratio of rework pieces of a particular group when the rework reason is DCD (out of specification) over the production pieces of all groups, the network server:  
retrieves the manufacturing technique code, mask, rework lot, rework pieces and production pieces from the rework data of each group inside the network database according to the input manufacturing technique code, product code,

analysis time node and the rework reason DCD (out of specification).

- [c22] 22. The analysis method of claim 18, wherein to obtain a percentage ratio of rework pieces of a particular group when the rework reason is a hardware issue (scanner down, track down, poor coating, arrow shade, defocus, poor development, abnormal focus, optical group shift or peeling, wafer tilt due to cleaning, no dummy pattern, no photoresist, wafer edge mark or reject wafer) over the production pieces of all groups, the network server:  
retrieves a manufacturing technique code, mask, rework lot, rework pieces and production pieces from the rework data of each group inside the network database according to the input manufacturing technique code, product code, analysis time node and the rework reason hardware issue.
- [c23] 23. The analysis method of claim 1, wherein the method further includes the step of standardizing the initial data by a loading program before transferring the standardized data to the network database for storage.
- [c24] 24. The analysis method of claim 23, wherein the standardized data produced by the loading program is stored in the network database using data tables.
- [c25] 25. The analysis method of claim 24, wherein the production time of each data table is a piece of data recorded by the system.
- [c26] 26. A lithography rework analysis system, comprising:  
a network server for linking with a network database; and  
a user computer having a browser interface for inputting an analysis time node and displaying data retrieved by from the network server from the network database according to the analysis time node.
- [c27] wherein the network database includes batches of rework data.
- [c28] 27. The rework analysis system of claim 26, wherein the rework data includes product number, production line code, station code, department code, product code, mask, rework pieces, measuring machine, production machine, worker name, rework reason code, rework reason title, current status, wafer lot note item, rework time and rework region.

- [c29] 28. The rework analysis system of claim 26, wherein the system further includes a loading program for standardizing initial data and transferring the standardized data to the network database.
- [c30] 29. The rework analysis system of claim 28, wherein the standardized initial data produced by the loading program is stored in data tables within the network database.
- [c31] 30. The rework analysis system of claim 29, wherein a production time of each data table is a piece of data recorded by the system.